Foreign Your

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What are key constaints?

Keys, both primary and foreign, are a type of constraint. Primary keys are the set of columns which uniquely identify a row within a table. Foreign keys are used to define referential integrity or data relationships between tables.

This is also referred to as "parent-child" table relationships. The keys prevent the addition of data to child tables where a valid cross-reference to the parent table does not exist. Keys can also prevent the deletion of data from a parent table when child rows exist in other tables.

How do I find out about existing foreign key constraints a table has?

- dbaccess
  query-language->info->constraints-
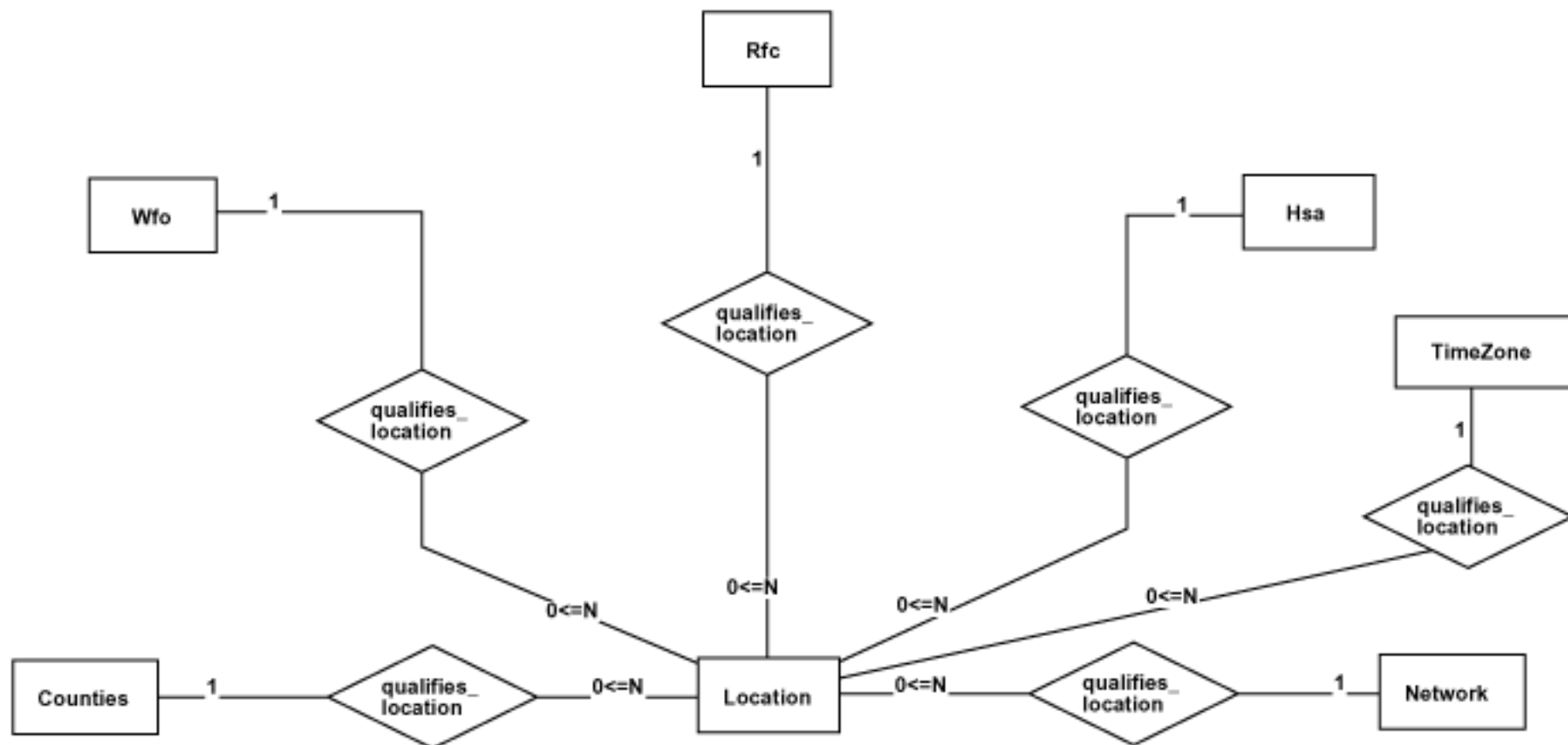 *...or...*
  table->info->constraints->reference->reference

- on-line documentation such as the data dictionary and entity relationship diagrams at www.nws.noaa.gov/oh/hrl/ihfs/database/v5.2.2/db.htm

- dbschema -d *database_name* -t *table_name*

Examples of Foreign Key Constraints

PARENT Table Name (field name)	CHILD Table Name (field name)
network (network)	location (network)
rfc (rfc)	location (rfc)
wfo (wfo)	location (wfo), counties (wfo), counties (primary_back), counties (secondary_back), nwrtransmitter (wfo)
hsa (hsa)	location (hsa)
state (state)	counties (state), observer (state), eligzon (state) ==> zonenum (state) , nwstransmitter (state)
counties (state)	location (state), countynum (state), countytransmit (state)
counties (county)	location (county), countynum (county), countytransmit (county)

Location Qualifiers

from entity relationship diagram link at
www.nws.noaa.gov/oh/hrl/ihfs/database/v5.2.2/db.htm

Example Sql on How to Add/DeleteConstraints

ALTER TABLE location ADD CONSTRAINT FOREIGN KEY (rfc) REFERENCES rfc CONSTRAINT location_rfc_fk;

DROP CONSTRAINT location_rfc_fk;

WHFS Reference Table Standards Project

- Spearheaded by Central Region

- Identified 16 reference tables that utilize foreign key constraints in the IHFS DB
  - network, rfc, wfo, hsa, state, counties, coopcomms, coopspons, cooprecip, dcpowner, gageownerm, gagemaint, telmowner, telmpayor, gagetype, telmtype

- Applications to implement these standards were developed, both are available on the AWIPS Local Apps Web Site
  - snoopy repair option
  - updatedb

WHFS Reference Table Standards

Beyond the CR Team

- initial version in process of being implemented in all regions

- ideas on how to keep standards in place have been discussed and changes have been proposed for the Hydrobase apps

- Recognize standards are dynamic, change management procedure is being developed

The End